


IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Harold R. Garner
Continuation of Serial No.: 09/776,202
Filed: February 2, 2001
Group Art Unit: 2872
Examiner: James Phan
For: DIGITAL OPTICAL CHEMISTRY MICROMIRROR IMAGER

Express Mail No.: EL 890353014 US

Date of Deposit: November 29, 2001

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PRELIMINARY AMENDMENT

Sir:

Please find below a Preliminary Amendment that accompanies the request for filing a Continuation Application under 37 CFR 1.53(b) filed herewith. Please amend the Continuation Patent Application filed herewith as follows:

IN THE SPECIFICATION:

On page 2, please add the following reference to the Continuation Application:

--This Application is a Continuation Application of co-pending U.S. Patent Application Serial No., 09/776,202, filed February 2, 2001, and U. S. Application Serial No. 09/326,526, filed June 4, 1999, entitled DIGITAL OPTICAL CHEMISTRY MICROMIRROR IMAGER,

now United States Patent No. 6,295,153 B1, which claims priority to United States Provisional Patent Application Serial No. 60/087,948, filed June 4, 1998.--

IN THE CLAIMS:

Cancel in this Continuation Application original claims 39-79 of pending United States Application Serial No. 09/776,202 before calculating the filing fee.

Please add new claims 80 through 97:

80. (New) An apparatus for catalyzing a reaction on a substrate comprising:
a light source;
a computer-controlled micromirror positioned to redirect light from the light source toward the substrate; and
a reaction chamber, wherein light redirected by the micromirror catalyzes a chemical reaction proximate the substrate in the reaction chamber.

81. (New) The apparatus of claim 80, wherein the light source comprises a UV light.

82. (New) The apparatus of claim 80, further comprising a lens between the micromirror and the substrate.

83. (New) The apparatus of claim 82, wherein the lens is further defined as a lens system, and wherein the lens system changes the magnification of light reflected by the micromirror.

84. (New) The apparatus of claim 80, wherein the micromirror is further defined as a micromirror array.

85. (New) The apparatus of claim 80, wherein the light catalyzes the synthesis of a nucleotide base proximate the substrate.

86. (New) The apparatus of claim 80, wherein the light catalyzes the synthesis of an amino acid residue proximate the substrate.

87. (New) The apparatus of claim 80, wherein the light catalyzes a reaction involving a molecule proximate the substrate.

88. (New) The apparatus of claim 80, wherein the light crosslinks a molecule proximate the substrate.

89. (New) An apparatus for catalyzing a reaction on a substrate comprising:
a light source;
a micromirror positioned to redirect light from the light source toward the substrate;
a reaction chamber disposed about the substrate;
one or more reactant lines connected to the reaction chamber;
one or more reaction chemicals connected to the reactant lines; and
a computer connected to, and controlling, the micromirror and the supply of the one or more reaction chemicals to the reaction chamber via the reactant lines, wherein a light catalyzable reaction occurs proximate to the site where light produced by the light source and redirected by the micromirror strikes the substrate.

90. (New) The apparatus of claim 89, wherein the light source produces UV light.

91. (New) The apparatus of claim 89, further comprising a lens between the micromirror and the substrate.

92. (New) The apparatus of claim 91, wherein the lens is further defined as a lens system, and wherein the lens system changes the magnification of light reflected by the micromirror.

93. (New) The apparatus of claim 89, wherein the micromirror is further defined as a micromirror array.

94. (New) The apparatus of claim 89, wherein the light catalyzes the synthesis of a nucleotide base proximate the substrate.

95. (New) The apparatus of claim 89, wherein the light catalyzes the synthesis of an amino acid residue proximate the substrate.

96. (New) The apparatus of claim 89, wherein the light catalyzes a reaction involving a molecule proximate the substrate.

97. (New) The apparatus of claim 89, wherein the light crosslinks a molecule proximate the substrate.

REMARKS

The claims of this Amendment find support in the Application of Garner as filed, specifically, claims 39 - 79 of the co-pending Patent Application, filed February 2, 2001, Serial No. 09/776,202 and claims 1-38 of Provisional Application, filed June 4, 1998, Serial No. 60/087,948. Support for the attached claims may be found throughout the Specification, in the claims and in the co-pending parent application.

Included with this Preliminary Amendment is an Affidavit that establishes the completion of the invention, which is the subject of the Continuation of Patent Application Serial No. 09/776,202, filed February 2, 2001, entitled DIGITAL OPTICAL CHEMISTRY MICROMIRROR IMAGER, which claims priority to Provisional Patent Application Serial No. 60/087,948, filed June 4, 1998 in the United States at a date prior to February 2998, which is the date of the prior art cited by the Examiner in the Office Action, mailed January 2, 2001 in the parent case.

Applicant submits that claims 80 - 97 are fully patentable and respectfully requests entry of the Amendment and advancement of the Application to allowance in light of the enclosed Declaration under 37 C.F.R. § 1.131 by Dr. Harold "Skip" Garner. The photograph attached (Exhibit A), and the annotated equivalent (Exhibit B, annotated by Applicant for the Examiner's

convenience), demonstrate an invention date prior to the effective date of the United States filing date of the Application cited in the Office Action in support of the rejection. The photograph in Exhibit A antedates the effective filing date of the WO 99/41007 Application, dated February 21, 1998. The invention disclosed and claimed in the present Application was used to produce a mask pattern on a substrate on the date even therewith, which is on or before February 21, 1998 (WO 99/41007) and February 23, 1998 (WO 99/42813), which is a date earlier than the effective dates of the references. Therefore, the claims in the present Application are allowable in light of the art cited in the parent case, from which these claims are copies. All pending claims are therefore allowable and withdrawal of the rejection is respectfully requested.


This Amendment does not increase the number of independent claims, does increase the total number of claims and does not present any multiple dependency claims. Accordingly, we have enclosed our firm's check in the amount of \$355.00 for payment of the filing fee for **Small Entity Status**. However, if our calculations are in error and a fee, other than the issue fee, is due, please charge this fee to Deposit Account No. 07-0153.

The Examiner is invited to telephone the undersigned at the telephone number listed below if he or she has any questions or suggested amendments to the claims.

Dated this November 29, 2001.

Respectfully submitted,

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